BAREILLY INTERNATIONAL UNIVERSITY, BAREILLY

Effectiveness of breast crawl method on selected newborn and maternal outcomes.

By

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Protocol of Thesis to be submitted to the Bareilly International University, Bareilly for the partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY
(Nursing)
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FACULTY OF NURSING

Certificate by the Supervisor

Faculty of Nursing

(Affiliated to Bareilly International University, Bareilly)

This is to certify that the facilities for the research work entitled "study to assess the effectiveness of breast crawl method on selected newborn and maternal outcomes." Allotted to Geeta Rawat under my direct supervision and guidance do exit in the department of Nursing, Faculty of Nursing, Bareilly.

I will ensure the authenticity of the thesis protocol topic and research methodology which conforms to the standards of Bareilly International University.

Supervisor

Signature

28/4/19

Name with Degree

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DECLARATION BY THE CANDIDATE

I hereby declare that this thesis protocol entitled " study to assess the effectiveness of breast crawl method on selected newborn and maternal outcomes." Will be a bonafied and genuine research work carried out by me under the supervision of Dr. Prema Baluswamy for partial fulfilment of the regulations for the Award of the degree of doctor of Philosophy in Nursing.

Date: 27/04/19

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Index

Introduction	**1-3**
Brief Review of literature	**4-6**
Aims & Objectives	**6**
Material & Methods	**7-14**
Refrences	**15-16**
Appendix	**17-21**

1 INTRODUCTION& NEED

" God could not be everywhere, and therefore He made mothers."

Rudyard Kipling

Mother ….. Whenever we hear this word, there is a smile on our faces. Why? The reason is because it reminds us about the memory of our mother. This word is complete in its own and also it has a very important place in our lives.

A courageous person, who sacrifice her own life to bring a new life in this world is only a mother. Mother is the first book, a child reads. The first word a child speaks is also "Maa". A mother is the fundamental base of her kid's life. She nurture the new life with her unconditional love and affection.

" Bottles fill his stomach, but breastfeeding fills his soul"

-Diane Wiessinger

Every human being after his birth is fed and nourished by his mother's milk. Breast feeding is a bond between a mother and her beloved baby which connects them eternally with each other. Breast milk not only provides complete nutrition to the newborn but also boost his immunity and also provides all the essential nutrients which are required for the growth and development of the newborn.

A baby is born with many natural instinct. This is our instinct which guide us in the initial stages of life until we develop the ability to think, judge or decide. Breast crawl is one of the natural instinct a baby is born with.[1]

The world health Organization (WHO) , UNICEF and WABA strongly recommend initiation of breastfeeding immediately within half an hour after birth.[2] But then also many of the health care facilities are very much busy with their normal routine care of the baby and mother during child birth. Some of the routines are necessary also but some can be delayed and some are not recommended anymore , so this also delayed the first immediate breastfeeding . Most of these routines hamper the first natural contact between the mother and the newborn. Most of the time , after birth the baby is handed over to the mother in the labor room or after shifting in the ward, already wrapped up nicely , for feeding in the sleeping or sitting positions. The naked skin – to-skin contact between the mother and her baby is partial or totally absent. So in initiating early breast feeding and establishing skin-to-skin contact Breast Crawl method can be a beneficial intervention.

Breast crawl was originally described in 1987 by Dr. Ann Marie Widstrom and her team and later pioneered by Dr. Marshall Klaus and Dr. Avroy Fanoroff. Breast crawl is the instinct of mammal (including human) newborns to move towards the nipple and attach to it for breastfeeding all by themselves.[3]In India it was started for the first time at Grace Maternity and Nursing Home at Kandivali in Mumbai for the first time.[4]

The newborn use their sense of smell in finding the nipple. The areola smells similar to amniotic fluid, the baby recognizes this smell on its hands and begins to move towards the breast. They also use visual stimuli (such as the mother's face and the breast's areola) and auditory (the mother's voice).[5]

Breast crawl offers many benefits to the mother and baby too. It helps to initiate breast feeding and bonding between mother and newborn. It also helps to reduce the risk of postpartum depression in new mothers. The nipple massage by the tiny hands

of the newborn stimulates the release of oxytocin which strengthen the uterine contractions and thus results in expulsion of placenta and helps to prevent post partum haemorrhage and anemia.[6]

According to the NFHS-IV (2017) India is said to be as “not a breastfeeding country” The date indicates that only 42% of the newborns are breastfed within one hour of birth. And a percentage of 55 only are exclusively breastfed for upto six months of life.If the worst performers of breastfeeding among the whole country are to be ranked according to percentage value, utter Pradesh is at the first rank with 25.4%, Rajasthan with 28.4 % and Uttrakhand with 28.8 %.[7]National Family Health Survey-IV revealed that 41.6% children under 3 yrs of age were breastfed within one hour of birth in 2015-2016 as compared to 23.4% in 2005-2006.[8]According to WHO feeding colostrum within first hour of life help the baby to fight with malnourishment, and also boost immunity.

These above mentioned studies revealed that with the help of breast crawl we can achieve the fourth step of BFHI ie. to initiate breast feeding with in half an hour following birth. Not only this but breast crawl can serve as a basis to prevent neonatal mortality rate and provide benefit to both the mother and her baby. In uttrakhand there is an immense need to conduct such kind of study. So as an Obstetrics and gynecology person its my moral responsibility to promote newborn health and prevent newborn mortality in my state. So I want to take up this study..

2 REVIEW OF LITRETURE

1.An experimental study was adopted for 22babies to assess the ability of newborn to initiate breastfeeding through breast crawl which is assessed by LATCH breastfeeding tool, soon after the delivery newborn were placed in breast crawl position and mothers were instructed to hold their newborn. The results found that, 91 percent of newborns completed breast crawl within 80 minutes duration, average time taken by newborns to achieve the latch was 27minutes. The mother satisfied and agreed that breast crawl is the best method to initiate breast feeding.[9]

2.A cross sectional study was conducted for the effective of separation on the Breast Crawl in 72 infants. In the separated group (n=34), the infant was placed on the mother's abdomen immediately after birth but removed after 10 minutes for measuring and wrapping. These routines took about 10 minutes after which the infant was returned to the mother. In the contact group (n=38) contact between mother and infant was uninterrupted for at least one hour after birth. The sucking ability technique was studied in both the groups. In the separation group (n=34), 7 infant has sucking reflex and in the contact group (n=38), 24 infants suck correctly. The study concluded that brief separation of the infant from the mother during the first hour after birth had a strong effect on the success of the first breastfeed, Thus, the two determinants for a successful start to breastfeeding seem to be uninterrupted contact with the mother until after the first feed.[10]

3.A prospective , single blinded randomized controlled clinical trial was conducted to assess the impact, feasibility and acceptability of breast crawl method in a labor room

of a tertiary care hospital at Nagpur, Maharashtra in 2012. The total subjects were devided into two equal groups with control and experimental. The impact of breast crawl was studied in experimental group and the outcome was compared with control group. Descriptive statistics and chi square analysis was applied to evaluate the questionnaire and to compare the outcome in the two groups. The results revealed that breast crawl had a significant positive impact on the onset of lactation. The study concluded that breast crawl results in positive short term breast feeding outcome but acceptability remains a major issue due to the busy schedule of labor room.[11]

4 .An experimental study done by Rajni Sharma at Kasturba Hospital, New delhi to find out the effectiveness of breast crawl technique to initiate breast feeding in newborn and to find out its impact on newborn and maternal outcome . A total of 60 mothers were selected with purposive sampling technique. The results revealed that the newborns with breast crawl technique had initiated early breast feeding in comparison to the newborns in the control group. The results were statistically better in the experimental group in terms of newborn and maternal outcomes. The study concluded that breast crawl technique was very effective in initiating early breast feeding and also it had a positive impact on newborn and maternal outcome in early postnatal period.[12]

5 .A prospective cohort observational research study was conducted by Tiwari V, Singh N , Shyam S at Dr. B.R Ambedkar Memorial hospital ,Raipur , Chatisgarh and JNM Medical College Raipur , Chatisgarh to evaluate the role of breast crawl in maternal health and wellbeing. A total of 200 subjects were taken for the study. The result revealed that out of 200 babies a total no. of 166 babies were able to successfully initiate breast feeding through breast crawl with in 50 minutes, and out of

166 mothers--- (1) 95 % who successfully completed breast crawl had early expulsion of placenta. (2) 96 % mothers had decrease in uterine size. (3) 100 % breast crawl mothers were fully satisfied. (4) 93 % mothers did not suffer from anemia in postnatal period. The researcher concluded that breast crawl is very beneficial for the mother as it helps to prevent anemia, postpartum hemorrhage, initiate early breast feeding and increases sense of wellbeing. [13]

AIMS

To assess the effectiveness of breast crawl method on selected Newborn and Maternal outcomes.

OBJECTIVES

- To evaluate the effectiveness of breast crawl method on selected newborn outcomes in terms of
  - Initiation of breastfeeding
  - Body Temperature
- To evaluate the effectiveness of breast crawl method on selected maternal outcomes in terms of
  - Placental expulsion
  - Intensity of Episiotomy suturing pain
  - Involution of Uterus

OPERATIONAL DEFINITIONS

Breast crawl:- For the present study it refers to the ability of the newborn to crawl when put on the mother's abdomen in such a way that the newborn's nose should lie in the middle of the mother's breast and find the mother's breast on its own and begin sucking soon after birth and before the expulsion of the placenta.

Selected Newborn And Maternal Outcomes:-

Newborn Outcomes:-

- **Initiation of breast feeding:-**It refers to initiation of breast feeding with in half hour of birth and receiving coloustrum by the newborn.
- **Body Temperature**:- It refers to body temperature of the newborn.

Maternal Outcomes:-

- **Expulsion of placenta**;- It refers to coming out of the placenta along with membranes through birth canal after child birth.
- **Episiotomy pain perception:-** It refers to severity of episiotomy pain during episiotomy suturing.
- **Involution of Uterus.:** It refers to reverting back of the uterus to its pre-pregnant state.

3 MATERIAL AND METHOD

- **Research Approach**:- Quantitative research approach
- **Research Design :-**Quasi experimental, post test only design.

E	x	O_1
C	------	O_1

E - Experimental group

C - Control group

X - Intervention

O_1 - Post-test

- **Population**:- Mothers in active labour.

- **Sample:-** Mothers in active labour, in labor room.

- **Setting:-** Selected Govt. hospital of Dehradun Uttrakhand.

- **Sample Size**:- The sample size is calculated using Cohen'd effect size formula.[14]

$$n = \frac{2\left[Z_{1-\alpha/2} + Z_{1-\beta}\right]^2}{\left(\frac{d}{\sigma}\right)^2}$$

$\left(\frac{d}{\sigma}\right)$ is called effect size

- 5% level of Significance $z_{1-\alpha/2}$ value is 1.96
- 90 % Power $z_{1-\beta}$ value is 1.28
- d/σ is effect size = 0.5 (Acc. To cohen'd effect size)
- Calculated sample size is 63.

  - 63 samples for Experimental group
  - 63 samples for Control group

- **Inclusion criteria**

Mothers who are:-

- Undergoing full term normal vaginal delivery.
- Live newborn with APGAR score 6
- Willing to participate in the study.

Exclusion criteria

- Mothers who are not well and suffering with any disorder.
- Mothers with any nipple or placental abnormalities
- Newborn with any congenital abnormalities.

- High risk mother or newborn
- Weight of newborn less than 2500 gms.
- Baby taking more than 30 minutes to initiate breast crawl.

SELECTION OF TOOL

- **DATA COLLECTION PROCEDURE**

- In experimental group immediately following the birth of the baby the time will be noted. After cord tie and cut ,the newborn will be assessed using APGAR.
- The baby will be completely dried except the hands, as the wet hands facilitates crawling. The baby will be shown to the mother maintaining a cheek-to-cheek contact.
- Then the baby will be placed on the mother's abdomen to initiate breastfeeding through breast crawl method .
- The time taken to initiate breast crawl and time taken for latch will be noted.
- The newborn Temperature and heart rate will also be noted at 0 and after 1 hour following birth.
- The total time for complete expulsion of placenta will be noted.
- The pain perception during episiotomy suturing will be assessed by using numeric pain scale. The height of the uterus will be measured after expulsion of placenta on first and second postnatal day.
- Each baby in the experimental group will be given a 45 minutes timing for initiating first breast feed. After this baby will be taken for routine care.

In the control group:-

- The newborn will be taken for the normal routine care.
- After the routine care the wrapped baby is given to the mother for feeding.
- The newborn and maternal outcomes will be noted as in experimental group.

SCHEMATIC PRESENTATION

RESEARCH APPROACH

Quantitative Research Approach

RESEARCH DESIGN

Quasi Experimental, Post Test Only

SETTING

Govt. Hospital Dehradun , Uttrakhand

TARGET POPULATION

Mothers in active labour

SAMPLE SIZE & SAMPLING TECHNIQUE

63 Mothers In Both Experimenatal And Control Group using Cohen'd effect size & Convenient sampling technique

TOOL AND METHODS OF DATA COLLECTION

ANALYSIS AND INTERPRETATION OF DATA

Data will be analysed using SPSS latest version 25

RESULTS

↓

CONCLUSION

- ## DISCRIPTION OF THE TOOL

Section I:- This will include the demographic variables such as age, education , obstetrical score including gravida, para, time to initiate breast crawl, latch on time, newborn temperature at 0 and 1 hour, time of expulsion of placenta and Height of the uterus. This data will be collected by using Interview method and observation.

Section II:- LATCH Assessment tool, by Jenson,Wallace & kelsay (1994) will be used. This will include numerical score of 0,1,and 2 to five key components (latch,swallowing,type of nipple , comfort, and hold) for a possible total score of 10 points.

Section III:- Intensity of episiotomy suturing pain will be assessed using Numeric rating scale. Which is a 11 point scale for patient self reporting of pain.

- ## INTERPRETATION OF SCORES

I The LATCH breast feeding assessment tool will be used to assess the newborn ability to crawl.

Description	**Score**
Excellent	7-10
Average	4-6
Poor	0-3

OBJECTIVES	METHOD OF DATA COLLECTION	DATA ANALYSIS
1. Effectiveness of breast crawl method on selected newborn outcomes. **Selected Newborn Outcomes are---** a. Initiation of breast feeding **b.** Body Temperature	**Standardized LATCH Scale** **Thermometer**	**Data will be analysed using SPSS latest version 25**
2. Effectiveness of breast crawl method on selected maternal outcomes. **Selected maternal Outcomes are---** a. Placental expulsion	**Time duration scale** **Standardized Numeric Pain Scale** **Fundal height**	

b. Episiotomy pain perception **2.** Involution of uterus	**measurement using tape measure**	

Excellent: The newborn itself initiated early breast feeding through breast crawl method.

Average : The newborn require some help to initiate early breast feeding through breast crawl method.

Poor: The newborn who are not able to initiate early breast feeding through breast crawl method.

II To check expulsion of placenta.[15]

Description	**Time Duration (Minutes)**
Early expulsion	1-5
Normal expulsion	6-20
Late expulsion	Above 20

(III) **Intensity of episiotomy suturing pain will be assessed using Numeric rating scale.**[16]

RATING	**PAIN LEVEL**
0	No Pain
1-3	Mild Pain
4-6	Moderate Pain
7-10	Severe Pain

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Appendix

SECTION- I

DEMOGRAPHIC VARIABLES

1 Age of the mother
- A 19-21
- B 22-24
- C 25-27
- D 28-30

2 Education of the mother
- A Post graduate or Professional degree
- B Graduate Degree
- C Higher secondary certificate
- D High School certificate
- E Illiterate

3 Gravida
- A Multi Gravida
- B Primi Gravida

4 Parity
- A Multi Para
- B Primi Para

5 Time to initiate breast crawl
- A 20 Minutes
- B 30 Minutes
- C 40 Minutes
- D 45 Minutes

6 latch on time
- A 20 Minutes
- B 30 Minutes
- C 45 Minutes
- D More than 45 Minutes

7 Newborn Temperature

Newborn Temperature	At 0 Min.	At 1 hour after birth

8 Time of expulsion of placenta

A 1-5 minutes
B 6- 20 minutes
C Above 20 minutes

9 Involution of the Uterus

1st Post Partum Day	
2nd Post Partum Day	

SECTION- II

1 The LATCH breast feeding assessment tool:- This breast feeding assessment tool was developed by Jensen et al. in 1994. This scale represents that how well a baby latches onto the mother's breasts. Each letter of the acronym LATCHrepresent a parameter of assessment. The system assigns a numerical score[17].

	0	1	2	Score
L Latch	Too sleepy No sustained latch or suck	Repeated attempts for latch or suck Hold nipple in mouth	Grasps breast Tongue down Lips flanged Rhythmical sucking	
A Audible swallowing	None	A few with stimulation	Spontaneous and intermittent (<24 hrs)	
T Type of nipple	Inverted	Flat	Everted (after stimulation)	
C Comfort	Engorged Cracked, bleeding, large blisters, or bruises	Filling Reddened, small blisters or bruises	Soft Non-tender	
H Hold	Full assist (staff holds infant at breast)	Minimal assist (staff holds, then mother takes over)	No assist from staff Mother able to position and hold infant	
				TOTAL:

Jenson, Wallace & Kelsay (1994). LATCH: A breastfeeding charting system and documentation tool. JOGNN, 23(1):29.

III **Numeric rating scale:-** This scale will be used to assess the intensity of episiotomy suturing pain. The Numeric pain rating scale is a segmented numeric version of the visual analog scale (VAS) in which the respondents selects a whole number (0-10 integers) that best describes the intensity of her pain. The common format is a horizontal bar or line similar to the VAS , the NPRS is anchored by items describing pain severity extremes. The NPRS takes less than 1 minutes to complete and it is also easy to administer and score.

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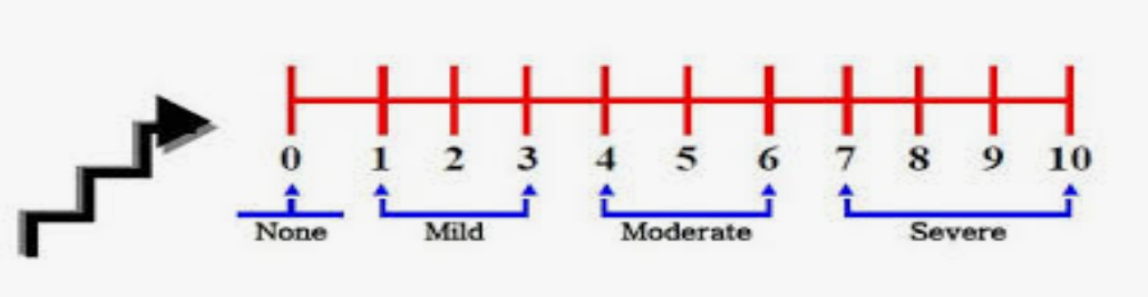

BREAST CRAWL

INTRODUCTION;- Every newborn when placed on the mother's abdomen , soon after birth has the ability to find its mother's breast all on its own and to decide when to take the first breast feed. This is called breast crawl.

PROCEDURE[18]

1 Immediately following delivery after baby cried, clamp and cut the cord
2 Dry the baby completely, except the hands (wet hands will help to crawl)
3 Show the baby to the mother maintaining cheek to cheek contact (to promote emotional bonding between mother and baby)
4 Place the newborn in prone position, on the mother's abdomen in such a way that the newborn nose should lie in the middle of the mother's breast and eyes at the level of the mother's nipples

5 The mother and the newborn's chest should be kept naked (to promote skin-to-skin contact)
6 Cover the mother and baby with a cloth to maintain warmth.

PHYSIOLOGY OF BREAST CRAWL

The odour of the breast is similar to smell of a substance in amniotic fluid. So it acts as a very strong stimulus to drive the baby towards the mother's nipple. The baby starts salivating as it realizes the smell of the breasts. He also starts to make mouthing movements. The amniotic fluid present on the hands of the baby guides it towards the nipple by crawling. The baby after reaching the nipple, gets attached to the nipples with mouth wide open. The baby and mother should remain uninterrupted until the baby finishes its first breast feed.

ADVANTAGES

- Helps to keep the baby warm (skin-to-skin contact)
- Leads to faster and effective achievement of feeding skills by the baby.
- Early consumption of colostrum
- Helps uterine contractions
- Earlier passage of meconium
- Early and long term breastfeeding success.
- Belter mother infant bonding.
- Decrease blood loss hence prevent anaemia**.**
- Help to prevent Post Partum depression.